25; Ferrars E-5 (ca. 1890) 1901 AP1 Burma
Burmese AP4

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297. BOAT-BUILDER'S YARD (PEGU).

and the hull filled with water. When the wood is waterlogged, the hull is emptied and a slow fire made under its whole length. The edges of the original slot, which now blend into stem and stern and only remain vertical amidships, are gripped by two rows of wooden vee's lashed by green creepers, wet ropes, or iron chains, to long levers that have the bottom of the boat for fulcrum. From the power-ends of the levers, ropes are belayed to two bamboo rails pegged to the ground on each side. As the heat takes effect, and the hull opens out, its symmetry is carefully watched until the originally vertical edges of the slot are horizontal. The beam is now double what it was and the displacement several times greater. The opening out is allowed to go somewhat beyond the intended beam, and recesses are cut for the stout thwarts (*pagán-byin*). These are then put in place, and the shell allowed to close upon them. The levers are left in position till the wood is quite rigid. The capacity of the boat is further increased by building on sides above the solid hull. These consist of long seamless planks, stiffened by mouldings and ribs, and in the case of cargo-boats by an upper tier of thwarts; the join is luted from the outer side with bee-dammar (*pínnyet*). Such boats are built of a capacity of ten to forty tons. The rounded solid hull (*laung-gó*) is the most serviceable for the rivers of Burma, on account of the ease of getting it off shoals; the boat can be worked about in every direction till it wears a

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298. LAUNG-GO POLING AGAINST A RAPID.

25; Ferrars E-5 (ca. 1890) 1901 APl Burma
Burmese AP4

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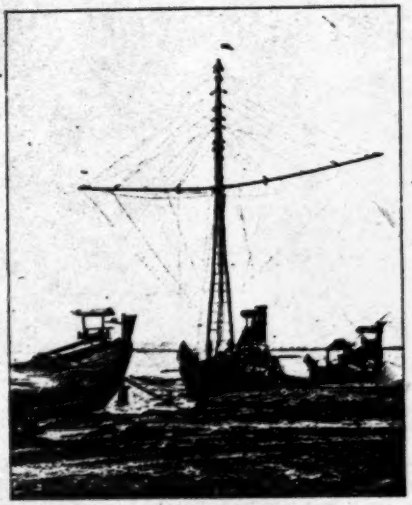

300. LAUNG-ZAT POLING UP-STREAM.

channel in the sand or mud. But it cannot sail near the wind, and it makes great leeway. Only a square-sail is carried. The prow of the boat is solid and the bulk-head above is ornamented with carving. The still more ornamented poop has to be built up in the large boats, to get the full sweep of curve that is obtained in a single piece in the canoe (*laung*). The boat has a good deal of buoyancy even when full of water. The *laung-gò* is rather crank, a defect which is obviated by the use of bamboo side-buoys (*baw-wa*, No. 176). *Thingán* hulls last twenty to thirty years; the canoe is used up to the last stump. When past repair, it is sawn asunder and boards nailed across the sound pieces. A tub of this kind is a treasure to a child (No. 161). The anchor (*kyauk*) used to be a wood fork weighted with stone; the European pattern is now general. The *laung-gò* is rowed with the stream only, by three or four sweep-oars; it is poled up-stream. The boatman thrusts his pole from the hollow above the collar-bone. Thus the hands are free to hold the body down to the rail, and every muscle is called into service. No. 289 shows the "tiger" style of poling, No. 298 the "scorpion" style. The crew of the *laung-gò* consists of three to five men; they get their food and a stipulated sum for the trip, which comes to twelve to sixteen annas per working day. Cargo boats cost from 1,000 to 3,000 rupees, chiefly for the solid hull.

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301. LAUNG-ZAT LOADING.

25: Ferrars E-5 (ca. 1890) 1901 APl Burma
Burmese AP4

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502. SHIPPING-PORT ON THE IRAWADI.

Canoes cost from twenty to one hundred rupees. Since ship-building was started, boats of greater dimensions than could be built solid—eighty to one hundred tons—have been built of teak on the carvel method (*zat-hle*). But the lines of the *laung-gô* are rigidly adhered to. A hull exactly simulating the solid hull is built with stout ribs and sheathing; then the sides are added—a most remarkable example of conservatism of type. These two classes of boats carry most of the rice to port. In Burma Proper, where timber does not attain such size as in the moist region, canoes only are made on the *laung-gô* plan; the larger boats have always been built up. In these the *laung-gô* type is also simulated, but not so closely (*laung-zát*, Nos. 294, 300). The narrow bottom is flat and is fixed to the side-planks of the lower hull by ribs. The planks are two to three inches thick and ten to twelve inches broad; they are held together by nails driven obliquely from recesses near the seams, which are luted with dammar, and are strengthened with ribs. The upper side-planks are attached as in the *laung-gô*. Poop and prow are strengthened by iron dee-nails along the seams. The capacity of such boats ranges from twenty to one hundred and fifty tons, and they cost from 500 to 5,000 rupees. The crew consists of from five to twenty men. They only sail before the wind and carry an immense expanse of sail, to stem the current of the Irawadi, which runs four to five knots in the rains. The course of the river and the prevailing wind are in their favour. During the rains these craft make two trips, north and south, and lie by in the dry weather. They convey the produce of Pegu to Burma Proper,—

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503. BURMAN SEA-GOING CRAFT (KATTU).

25; Ferrars E-5 (ca. 1890) 1901 APl Burma
Burmese AP4

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308. BURMAN CARTWRIGHTS.

ngapi, dried fish, salt and rice, besides imported goods. They bring down the manufactures of the North—cutch, lacquer, images, and *parti-kaya* wares. They have to endure a formidable competition from the river steamers. In its existing form, the boat of Burma presents no near affinity to the boats of neighbouring peoples. The types of architecture which the Burmans borrowed from India they have treated in a distinctive way which gives them independent interest. But the art which culminates in the stately ship of the Irawadi is purely their own achievement. The work derives unity from the noble balance of the masses and life from the spirited sweep of the curves. The severity of line is relieved by plastic incident in the rich carving. The structure itself is patent and not concealed (with the exception noted), and the decoration goes hand in hand with it. Besides their own type of boat, the Shan type (No. 320) has been developed into a large craft for carrying earth-oil in bulk—the *peingâw*.

[505
315] Two long, partially-hollowed teak logs form the sides of the lower hull, with several thick planks intervening, for the flat bottom. Two planks above these complete the sides, all held together by nails and ribs as in the *laungzât*. There are outrigged bamboo galleries for the crew to row and pole, which allow of the deck-house being carried from end to end, providing accommodation for several families. The rig is the same as in the *laungzât*. In tidal and salt waters, boats have to be beached once a month to bream the bottoms and destroy the teredo. The rest of the woodwork and tackle is protected with earth-oil.

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308. BUFFALO-CART.

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[177] The boats of Arakán are on Indian lines. There is